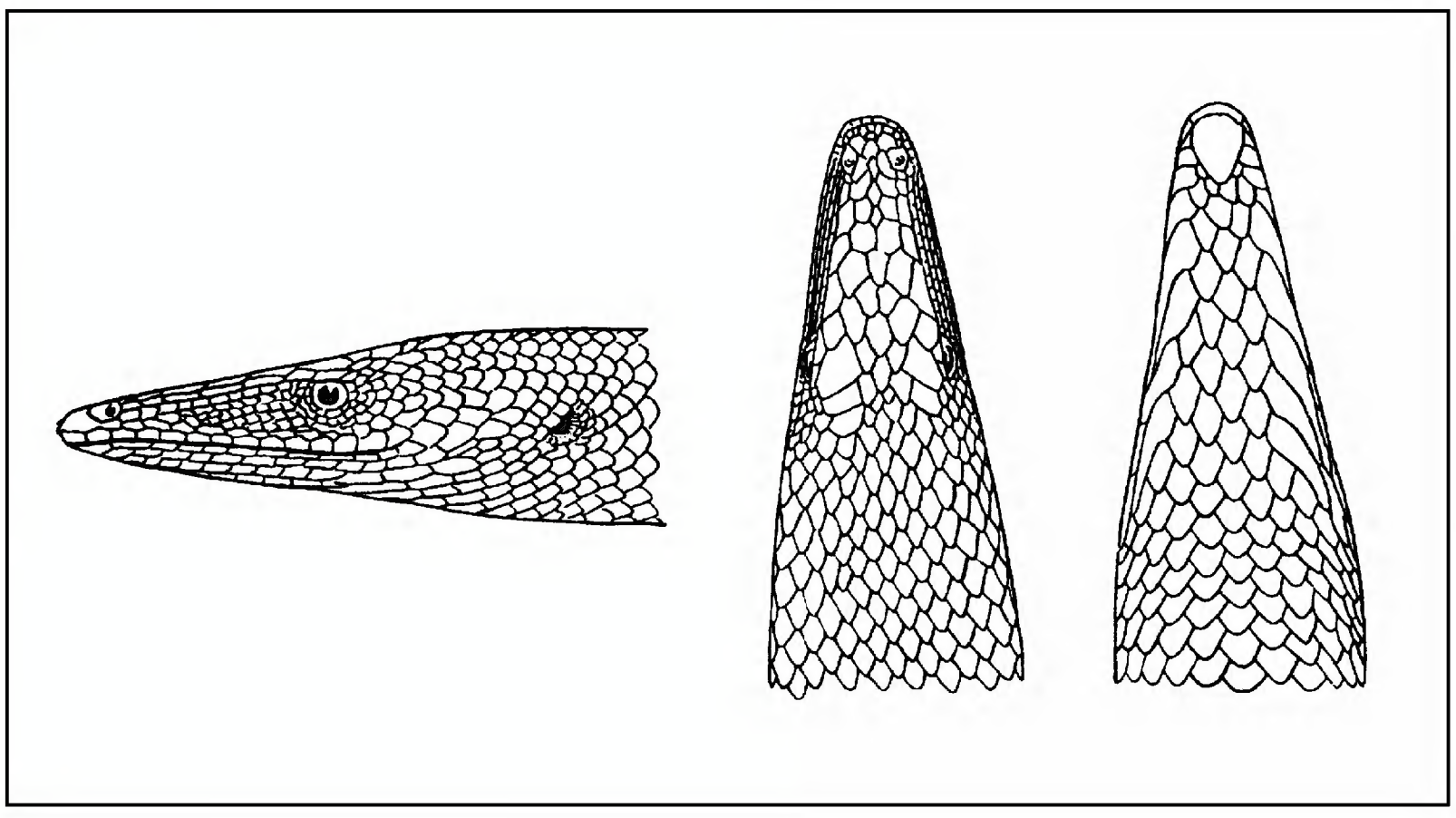
BULLETIN
of the
Chicago Herpetological Society

Volume 40, Number 6
June 2005



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The *Bulletin of the Chicago Herpetological Society* (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

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Bull. Chicago Herp. Soc. 40(6):105-106, 2005

Note on the Distribution of the Short-headed Gartersnake (*Thamnophis brachystoma*) in Erie County, Pennsylvania

Brian S. Gray
1217 Clifton Drive
Erie, PA 16505-5215

The short-headed gartersnake (*Thamnophis brachystoma*) has one of the most restricted ranges of any species of snake that occurs in the United States (Hulse et al., 2001). Within its natural range, this species is known to occur in the Allegheny Plateau of northwestern Pennsylvania and adjacent southwestern New York. Most species that have a restricted range have very specific habitat or ecological requirements; however, the short-headed gartersnake doesn't seem to be restricted by such factors. When introduced into areas well outside its natural range, populations of *T. brachystoma* tend to thrive (Hulse et al., 2001). Introduced populations have been established in Allegheny, Butler and Erie counties in Pennsylvania (McCoy, 1982). An introduced population in Mahoning County, Ohio, has also been reported (Novotny, 1990).

Herein, I report on an additional locality for *Thamnophis brachystoma* in Erie County, Pennsylvania, and offer an explanation as to why this species thrives outside its natural range.

The short-headed gartersnake is found at several localities in Erie County, Pennsylvania, with the species being reported from the Corry area (McCoy, 1982), Presque Isle (McKinstry and Cunningham, 1989; McKinstry et al., 1991), the Erie Industrial Park area (Lethaby, 2004), in a gravel pit near Union City (McKinstry et al., 1999; A. Hulse, 2000, pers. com.), and near Wattsburg Fen (M. Lethaby, 2004, pers. com.). Most of these populations are assumed to be introductions, Corry being a possible exception. Population estimates are not available for these supposed extralimital populations, however the species appears to be abundant at most of these sites. For instance, on 4 June 2004, at the Wattsburg Fen site, nineteen *T. brachystoma* were observed during a half-hour search of a debris pile by M. Lethaby, B. Wettekin and the author. At the Union City site, McKinstry et al. (1999) reported finding seven *T. brachystoma*; while Lethaby (2005, pers. com.) stated that on one occasion he had found ca. six at the Erie Industrial Park locality. One female collected by Lethaby at this site turned out to be of record size (578 mm total length) (Lethaby, 2004). The species appears to be rare at Presque Isle, as only two short-headed gartersnakes have been found there (McKinstry et al., 1991).

Observations of *T. brachystoma* were made while surveying a site near West Springfield, Erie County, Pennsylvania. The area, visited on an irregular basis between 1998 and 2004, is composed of palustrine woodland (Fike, 1999) and adjacent old field habitat. Seven adults, including two gravid females, and a juvenile *T. brachystoma* were observed at the Springfield site. A shed skin from a *T. brachystoma* was also found, beneath metal sheeting, in the old field. The presence of gravid females and individuals less than a year old indicate that successful reproduction is occurring at the site. The new locality extends the range of *T. brachystoma* in Pennsylvania approximately 39 km west-southwest of Presque Isle. Because the newly discovered locality is only 1.5 km east of the Pennsylvania–Ohio border, it is possible that the short-headed gartersnake eventually will be found in adjacent eastern Ashtabula County, Ohio.

What factors allow this species to thrive outside its presumed pre-settlement range on the Allegheny Plateau, even in urban habitats? A possible explanation is as follows: In the past (prior to European settlement) *T. brachystoma* was restricted to unglaciated regions in New York and Pennsylvania. The glaciated regions were unsuitable, for at least one important reason—they lacked earthworms (Reynolds, 1994; 2004). Other species of snakes that feed almost exclusively on earthworms (*Carphophis amoenus* and *Virginia valeriae pulchra*) have similarly restricted ranges south of the southern limit of the Quaternary glaciation (but see discussion of *T. butleri* below). When nonnative species of earthworms were introduced by European settlers, either intentionally or not, they provided an easily acquired food source. Densities of European earthworms can be extremely high, as many as a million or more per acre have been reported in localities in New York and Maryland (Stewart, 2004). However, such numbers may be inflated due to improper sampling, and/or the clustered nature of earthworm distributions (J. Reynolds, 2005, pers. com.). (With nonnative species of earthworms now ubiquitous across formerly glaciated areas of the northeastern United States, *T. brachystoma* has an abundant food supply if introduced in these areas.) Thus, the introduction of exotic earthworms has affected the distribution of the short-headed gartersnake by allowing the species to colonize areas that would not otherwise have been possible (i.e., formerly glaciated areas). In some areas *T. brachystoma* may be migrating (or may have already migrated) outward from its pre-settlement range into areas now populated with nonnative earthworms. Bothner (1976) reported declines in populations of *T. brachystoma* in the northern portion of the species' range. He also noted an increase in population densities of *T. sirtalis* in the same region. (While loss and degradation of habitat are the most likely factors, earthworms may also play a role in these changes. More research is needed to determine in which ways exotic earthworms have affected the distribution of worm-eating snakes in this region.)

The closely related Butler's gartersnake, *T. butleri*, is found predominantly in formerly glaciated habitats. Like the short-headed gartersnake, Butler's gartersnake feeds primarily on earthworms; however, unlike *T. brachystoma* it will also consume other prey, such as fish, leeches and small frogs (Ernst and Ernst, 2003). Catling and Freedman (1980) suggested that *T. butleri* in Ontario may have fed on leeches prior to the introduction of European earthworms. The more generalized diet of Butler's gartersnake may explain its presence in glaciated regions. Whereas the strict feeding preference of

earthworms by the short-headed gartersnake may have prevented it from colonizing glaciated regions lacking this prey.

Why aren't introduced populations of *C. amoenus* or *V. v. pulchra* "popping up" here and there? In contrast to the short-headed gartersnake, both of these species are more secretive, and therefore less likely to be encountered, taken home, and subsequently escape or be released. Differences in population density and activity periods may also be factors to consider.

Additional research is necessary to determine which earthworm species (native and nonnative) *T. brachystoma* is feeding upon, and if it has a preference for one species over another. Such information could be obtained from gut analyses and laboratory trials. Reynolds (1977) has demonstrated that even though earthworms may occur in an area, some species may select habitats or have behaviors that make them unavailable to certain predators. Therefore, with regard to affecting the distribution of the short-headed gartersnake, some exotic earthworm species may have greater potential than others.

Finally, other possibilities need to be considered regarding the supposed introduced populations of *T. brachystoma* in unglaciated areas outside the Allegheny Plateau, especially if these sites had native earthworm populations.

The hypothesis presented in this paper is speculative, but at this point in time, it offers a possible explanation for the restricted range, and the ability of *T. brachystoma* to easily colonize areas outside its natural range. Oligochaetologists may find studying the distribution of earthworm predators such as *T. brachystoma* valuable in helping delineate the former distribution of native earthworm species.

Acknowledgments

I thank Mark Lethaby for reviewing the manuscript, and for drawing my attention to additional published locality records. I also wish to express my appreciation to Jim Harding for reviewing an early draft of the manuscript and providing thought-provoking comments that led to an improved manuscript. I am indebted to John Reynolds for offering comments on the manuscript and providing me with reprints of several of his articles regarding the distribution of earthworms. Thanks also to Scott Bloomstine, Paul Curtis and Mark Lethaby for their assistance in the field.

Literature Cited

Bothner, R. C. 1976. *Thamnophis brachystoma*. Cat. Amer. Amphib. Rept.: 190.1-190.2.

Catling, P. M., and W. Freedman. 1980. Food and feeding behavior of sympatric snakes at Amhertsburg, Ontario. Can. Field-Nat. 94:28-33.

Ernst, C. H., and E. M. Ernst. 2003. Snakes of the United States and Canada. Washington, D.C.: Smithsonian Books.

Fike, J. 1999. Terrestrial and palustrine plant communities of Pennsylvania. Pennsylvania Department of Conservation and Natural Resources, and Pennsylvania Natural Diversity Inventory.

Hulse, A. C., C. J. McCoy and E. J. Censky. 2001. Amphibians and reptiles of Pennsylvania and the Northeast. Ithaca, New York: Cornell University Press.

Lethaby, M. 2004. Natural History Note. *Thamnophis brachystoma*, maximum size. Herpetological Review 35(1):73.

McCoy, C. J. 1982. Amphibians and reptiles in Pennsylvania: Checklist, bibliography, and atlas of distribution. Spec. Publ. Carnegie Mus. Nat. Hist. 6:1-91.

McKinstry, D. M., and H. N. Cunningham, Jr. 1989. Assessment of amphibian and reptile populations on Presque Isle State Park, Erie, Pennsylvania. Final report to the Wild Resources Conservation Board, Harrisburg, Pennsylvania.

McKinstry, D. M., M. A. Lethaby and H. N. Cunningham, Jr. 1991. Amphibians and reptiles of Presque Isle State Park, Erie County, Pennsylvania. J. Pennsylvania Academy of Sciences 65(1):17-23.

McKinstry, D. M., H. N. Cunningham, Jr., M. A. Lethaby, and T. A. Shrout. 1999. An inventory of amphibians and reptiles of French Creek, Erie County, Pennsylvania through diurnal opportunistic collecting. J. Pennsylvania Academy of Science 73(3): 106-112.

Novotny, R. J. 1990. Geographic distribution. *Thamnophis brachystoma*. Herpetological Review 21(2):42.

Reynolds, J. W. 1977. Earthworms utilized by the American woodcock. Proc. Woodcock Symp. 6:161-169.

———. 1994. The distribution of the earthworms (Oligochaeta) of Indiana: A case for the post Quaternary introduction theory for Megadrile migration in North America. Megadrilogica 5(3):13-32.

———. 2004. Terrestrial Oligochaeta (Annelida: Clitellata) in North America north of Mexico. Megadrilogica 9(11):71-98.

Stewart, A. 2004. The Earth moved: On the remarkable achievements of earthworms. Chapel Hill, N. Carolina: Algonquin Books.

Bull. Chicago Herp. Soc. 40(6):107-110, 2005

Herpetofauna of Grant's Cave, Florida: Living Animals and Skeletal Remains

J. Alan Holman
Michigan State University Museum
One West Circle Drive
East Lansing, MI 48824-1045
holman@msu.edu

Introduction

This paper represents a part of a heretofore unpublished ecological study of a cave in north-central Florida directed by the late Archie Carr of the Biology Department of the University of Florida, Gainesville. I studied the herpetofauna, while Gerald Flora, Thomas Hellier, Betty Starner, and Elizabeth Wing dealt with the other biological and physical aspects of the cave community. The project began on 1 February 1956 and continued until 15 May 1956. Weekly and biweekly trips were made to the cave during this interval. This project started my career in paleoherpetology and for this I am grateful to Drs. Carr, Flora, Hellier, Starner and Wing. For ethical reasons I am not giving the exact location of this feature, known as Grant's Cave.

Grant's Cave is located west of Gainesville, Alachua County, Florida, at a latitude of 29.6°N. The mean annual temperature for the region is approximately 70.9°F and the mean annual precipitation is approximately 52.3 in. The cave formed due to the dissolution of the Oligocene Ocala limestone in an area of typical karst topography that is replete with other sinkholes and depressions. It is believed that this area was once covered by longleaf pine, but during the time of our study, the main vegetation in the area of the cave was pasture grass. The latest information I have on the present status of this cave is that the two rock-filled sinks that allowed entrance to the cave were filled to protect cattle and humans.

Our study group utilized one of the rock-filled sinks to gain entrance to Grant's Cave by means of a nearly symmetrical vertical shaft (chimney) that cut through solid limestone. The shaft was roughly 10 ft (3 m) in diameter and thirty ft (9.1 m) deep. We entered and exited the cave by means of rope ladders. The floor of the cave near the shaft was littered with dirt, leaves, bones and other material such as soft drink bottles and beer cans. We did our study mainly in two rooms ("Room A" the smaller and "Room B" the larger) and two narrower passages that led off from Room B. The narrower passages also connected to a maze of additional passages and ledges. At the time of our study, Room A was about 24 ft (7.2 m) wide at its widest point and 8 to 10 ft (2.4 to 3.4 m) high. Room B was about 30 ft (9 m) wide at its widest point, 70 ft (21 m) long, and 18 to 20 ft (5.4 to 6.0 m) high.

We became immediately aware that this cave acted as a natural trap on our first study day. As we assembled on the floor of the cave near the entrance, we were met by the unearthly bellow of an injured steer which we located in Room A. We contacted the land owner who sent two men with a tractor and a sling to haul the ailing animal to the surface. We were told that this was not an unusual occurrence when cattle wander into areas of chimney caves.

My inexperience as a caver led to two minor mishaps. On one occasion my headlight went out and I became lost for an hour in total darkness in a maze of passages. On another, while digging in bat guano, I suffered badly bruised fingers when I accidently tripped a set steel trap chained to a stake. It was very difficult to spring the trap while on my knees in the soft substrate.

The most dominant living animals in the cave were southeastern myotis bats (*Myotis austroriparius*) and common cockroaches (*Periplaneta americana*) that fed mainly on the guano deposited by the bats. The bats were first observed in late February and March in limited numbers (100–200 individuals) and by early April the estimated number of bats hanging in clusters in the cave was 40,000. These animals deposited significant layers of guano on the cave floor. The cockroaches infested the cave walls. The dung deposited by both of these animals was a source of energy for the other biota in the cave.

Another important member of the cave fauna was the cotton mouse (*Peromyscus gossypinus*), which was found in all parts of the cave and whose caches were observed in many pockets and crevices. Experimental trapping and release of these mice outside and inside the of the cave led to the determination that these mice represented a strictly cave population. Cockroach remains were common in the mouse caches. We noted that water was present in only a single passage during our study but water was very abundant in the cave previously (William Jennings, personal communication, 1956). Small, lightly pigmented, catfish (probably *Ameiurus*) were seen in Grant's Cave on two occasions early in the study but efforts to collect them were unsuccessful.

Living Amphibians and Reptiles

Rana catesbeiana Shaw — American Bullfrog

American bullfrogs were first reported from the interior of Grant's Cave by Archie Carr and William Jennings (personal communications from A. Carr and W. Jennings, 1955). These were all large frogs. Oddly, I found only three *R. catesbeiana* (all adults) during my numerous trips to the cave. The first was taken on 9 December 1975, before the coordinated study of the cave had begun. It was a female from Room B with a snout–vent length of 112 mm and a head width of 48 mm. This frog was preserved two hours after capture. Later, dissection showed that its stomach was packed with cockroach remains.

A second bullfrog, a male, was taken in Room B on 26 February 1956, and was toe-clipped for future recognition. This frog had a snout–vent length of 155 mm and a head width of 67 mm. It was very emaciated and palpation indicated that little or no food was in its stomach. This frog was seen many

times later, continued to be in an emaciated condition, and finally was found dead at the original place of its capture on 20 March. The farthest this frog traveled from its original place of capture was 80 ft (24 m).

The third frog observed was a very large, healthy male with a snout–vent length of 164 mm and a head width of 70 mm. This individual, also from Room B, was taken under a ledge of rock. Palpation indicated the stomach was relatively empty. Another large bullfrog that eluded my grasp and escaped under a ledge on 28 March might have been this individual. No other frogs were seen in the cave during this study.

Elaphe guttata guttata (Linnaeus)—Cornsnake

Two Cornsnakes were found deep within the cave, both crawling sluggishly along ledges in total darkness. The first, taken 28 February, was a rather small specimen with a total length of 660 mm. Its sex was not determined. It was remarkably gentle even when its scales were being clipped for identification purposes and it was being palpated for food. When released it crawled slowly into a fissure in the limestone. This individual appeared healthy and well fed and had no blemishes on its body. A second cornsnake was observed on 13 March. This snake measured 812 mm in total length and was not sexed. It was very sluggish in its behavior and showed no hostile reactions to handling and palpation. This snake also appeared healthy and well fed and had no blemishes on its body. No stomach remains were produced by palpation in either snake.

On two occasions cornsnakes were observed at the entrance to the vertical shaft leading into the cave. On 19 February one was disturbed while one of the party began her descent down the rope; and on 22 February a specimen was observed crawling into a hole between the roots of a laurel oak tree growing on the side of the chimney. On 13 March, a shed skin of an *Elaphe* was found stretched in the roots of the same tree.

Rice (1955) reported that ratsnakes (*Elaphe obsoleta*) and cornsnakes (*Elaphe guttata*) are doubtlessly the most important predators on *Myotis austroriparius*. He stated that both species of snakes were excellent climbers and that captive individuals of both species readily accepted these bats as food.

Ernst and Ernst (2003) made comments on *Elaphe guttata* that relate to occupancy of caves by this species. They reported that cornsnakes were accomplished climbers and that they hibernate in caves north of southern Florida, but they did not mention any specific caves. Their captive cornsnakes ate bats, including big brown bats (*Eptesicus fuscus*) and eastern pipistrelle bats (*Pipistrellus subflavus*). Eastern pipistrelle bats were not seen in the cave on our watch, but their skeletal remains were found in the guano layer of Site II. Ernst and Ernst (2003) reported that their captive cornsnakes ate deer mice (*Peromyscus maniculatus*). These authors related that cornsnakes are attracted to both the body heat and odor of rodents. Obviously this would allow them to locate bats in the total darkness of caves, especially those that were congregated in massive clusters such as were observed in Grant's Cave in 1956.

Trachemys scripta scripta (Schoepff)—Yellow-bellied Slider

A female yellow-bellied slider was found in a water-filled tunnel in March (no specific date recorded) and probably accidentally fell into the cave. It was found crawling about in a muddy area adjacent to the water and appeared active and in good condition. The total length of the carapace was 152 mm. The yellow-bellied slider was not seen again during the study period and it may be that it found an exit to the surface in the upward ranging maze of ledges and tunnels of the cave system. No other turtles were seen in the cave during the study.

Skeletal Remains of Amphibians and Reptiles

Sedimentary matrix from the cave floor was excavated and washed through screens in an attempt to determine the species of vertebrates formerly inhabiting the cave. Two sites were investigated. "Site I" was located at the opening of a water-filled tunnel and very little of the muddy ooze that was found there could be processed. "Site II" was located in the middle of a dry tunnel. Here two inches of decaying bat guano at the surface gave way to a mixture of pure sand, sandy clay, and flat pieces of limestone and chert representing material that had fallen from above; among these fallen rocks were pockets of clay and organic material. Below this level was a distinct, sticky grayish clay that yielded bluish and yellow-green nodules when washed. Almost all of the many bones that were screen-washed, dried, and picked were elements that came from washable sediments below the bat guano. These bones were well-mineralized, but no extinct Pleistocene vertebrates were identified among these remains.

Thus, the vertebrae bones from Grant's Cave probably represent the Holocene age, and could represent an interval from a few thousand to a few hundred years before the present. The fact that all of the vertebrate bones represent amphibians, reptiles and mammals that occur in the immediate area of the cave today may indicate the younger age.

Scaphiopus holbrookii (Harlan)—Eastern Spadefoot

The eastern spadefoot was represented by two right ilia and two cranial crests from washable sediments below the guano layer of Site II. These bones came from large individuals. This species occurs in the area of the cave today.

Bufo cf. *Bufo terrestris* (Bonnaterre)—Probable Southern Toad

This probable southern toad was represented by two left femora, a sacral vertebra, a humerus, a large scapula, and two cranial crests from the washable sediments below the guano layer. At the time, these bones were not identified to species because of the lack of comparative skeletal material. But I now feel almost certain that the bones represented *Bufo terrestris* (Bonnaterre) the southern toad, as the cave bones were indistinguishable from those of the prepared southern toad skeletons that were available at the time.

Rana sp.—True Frog

Bones of *Rana* were widely distributed throughout both Sites I and II including the guano layers at both sites. The *Rana* bones were next in abundance to bat elements at both sites. The most common elements recovered were miscellaneous bits of skull, maxillae, trunk vertebrae, humeri, femora

and tibio-fibulae. One very large humerus 45 mm in length probably represented a very large American bullfrog. Most of the other frog elements represented anurans smaller than the living American bullfrogs found in the cave.

Ambystoma sp. — Mole Salamander

A single trunk vertebra of *Ambystoma* was found in Site II beneath the guano layer. The size of the vertebra (length of centrum 3.5 mm; width of centrum 1.8 mm; total length of vertebra 4.1 mm) indicates one of the larger mole salamander species such as *A. tigrinum*.

Anolis carolinensis (Voigt) — Green Anole

Two right mandibles of the green anole were recovered from Site II beneath the guano layer. Living members of this species were common in the vicinity of the cave during the 1956 study.

Ophisaurus cf. *Ophisaurus ventralis* (Linnaeus) — Probable Eastern Glass Lizard

Three trunk vertebrae were recovered from Site II below the guano level. These vertebrae were similar to *O. ventralis* and differed from *O. attenuatus* (Cope) in the posterior angle of the neural spine with the top of the neural arch (see Auffenberg, 1955). Both of these species occur in the vicinity of the cave.

Nerodia cf. *Nerodia fasciata* (Linnaeus) — Probable Southern Watersnake

Three trunk vertebra collected from Site II below the guano layer probably represent *N. fasciata* based on characters of the neural spine (see Holman, 2000). The Florida watersnake (*Nerodia fasciata pictiventris* [Cope]) presently occurs in the general area of Grant's Cave.

Drymarchon corais couperi (Holbrook, 1842) — Eastern Indigo Snake

A single trunk vertebra of this large species was collected from Site II below the guano layer. Holman (2000) provides characters for the identification of this species on the basis of vertebral remains. Here I do not follow Crother (2000), who recognizes the eastern indigo snake as "*D. couperi*." The eastern indigo snake once ranged throughout Florida and the larger Florida Keys, but it is uncommon in most of the state today. I did not encounter an indigo snake in the five and one half years that I lived in the Gainesville area.

Heterodon sp. — North American Hog-nosed Snake

A maxilla of *Heterodon* with two remaining teeth was collected from Site II below the guano layer. This maxilla was identified by Walter Auffenberg, an expert on the fossil snakes of Florida (Auffenberg, 1963). At present, both the eastern hog-nosed snake (*H. platirhinos* Latreille) and southern hog-nosed snake (*H. simus* [Linnaeus]) occur in the general vicinity of the site, but the eastern hog-nosed snake is much more common.

Elaphe sp. — Ratsnake

Fourteen ratsnake vertebrae were collected from Grant's Cave, two from below the guano layer in Site I, two from the guano layer in Site II, and ten from below the guano layer in Site II. At the time I was not able to distinguish between the vertebrae of the eastern ratsnakes (*E. obsoleta* [Say]) and those of cornsnakes (*E. guttata* [Linnaeus]), so these fossils could have represented either or both of these species. On the other hand, I strongly suspect that they were the remains of cornsnakes.

Remarks

Large frogs of the genus *Rana* and ratsnakes of the genus *Elaphe* were by far the most abundant amphibians and reptiles in both the living fauna of the cave and in the skeletal material buried in the sediments of the cave floor. Moreover, the only amphibians and reptile bones found in the relatively recently deposited bat guano layers were large ranid frogs and ratsnakes.

Relative to the three living herpetological species found in the cave, the cornsnake obviously can enter and leave the cave at will because of its excellent climbing ability. Thus it can utilize the cave to feed on the numerous bats in the winter and the mice that occupy this feature year-round. These snakes obviously shelter there from time to time during the winter months. On the other hand, the frogs may have been accidentally trapped in the cave, but may often be able to live out their life span, feeding on the abundant cockroaches and other invertebrate life. But it is doubtful that these breed in the cave as no hatchling or immature frogs or frog bones were found in the feature. The yellow-bellied slider must have accidentally fallen down the shaft that leads to the cave proper. No doubt it would likely succumb to the sunless conditions unless it could somehow find a way to climb up through the labyrinth of tunnels and ledges to an opening at the surface. Turtle shell remnants are often the most abundant elements in fossil deposits, including caves; in fact, so much so that they are often ignored or discarded by vertebrate paleontologists seeking other groups of fossil animals. Thus the fact that not one scrap of turtle bone was found in the sediments of Grant's Cave is perplexing. Finally, I suggest that the amphibians and reptiles (other than ratsnakes) represented by living individuals and skeletal material were probably all accidental entrants to the cave.

Herpetofauna of Grant's Cave, Florida

	Living	Skeletal
Scaphiopus holbrookii	0	+
Bufo cf. *terrestris*	0	+
Rana catesbeiana	+	very probable
Rana sp.	na	+
Trachemys s. scripta	+	0
Anolis carolinensis	0	+
Ophisaurus cf. *ventralis*	0	+
Nerodia cf. *fasciata*	0	+
Drymarchon corais	0	+
Heterodon sp.	0	+
Elaphe guttata	+	very probable
Elaphe sp.	na	?

Literature Cited

Auffenberg, W. 1955. Glass lizards in the Pleistocene and Pliocene of Florida. Herpetologica 11:133-136.

————. 1963. The fossil snakes of Florida. Tulane Studies in Zoology 10:131-216.

Crother, B. I., editor. 2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico with comments regarding confidence in our understanding. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 27.

Ernst, C. H., and E. M. Ernst. 2003. Snakes of the United States and Canada. Washington, D.C: Smithsonian Books.

Holman, J. H. 2000. Fossil snakes of North America. Bloomington: Indiana University Press.

Rice, D. 1955. Life history and ecology of *Myotis austroriparius*. Masters Thesis, University of Florida, Gainesville, pp. 1-74.

Bull. Chicago Herp. Soc. 40(6):110-111, 2005

Longevity of a Captive Deformed Northern Leopard Frog, *Rana pipiens*, in Erie County, Pennsylvania

Robert J. Wellington
924 Sill Avenue
Erie, PA 16505-3918

Abstract

A deformed male northern leopard frog, *Rana pipiens*, was captured at the Howard Eaton Reservoir; a man-made reservoir in eastern Erie County, Pennsylvania. The frog's left hind leg consisted of only a short stub that was about one half the length of its right femur. No tibia-fibula, tarsus, metatarsus or phalanges were observed on its left hind leg. Otherwise the frog appeared to be fully developed. The frog was caught on the west side of the reservoir on 14 August 1997. It was kept in captivity until its apparent premature accidental death on 29 October 2004. The frog was at least 7.2 years old at the time of its death.

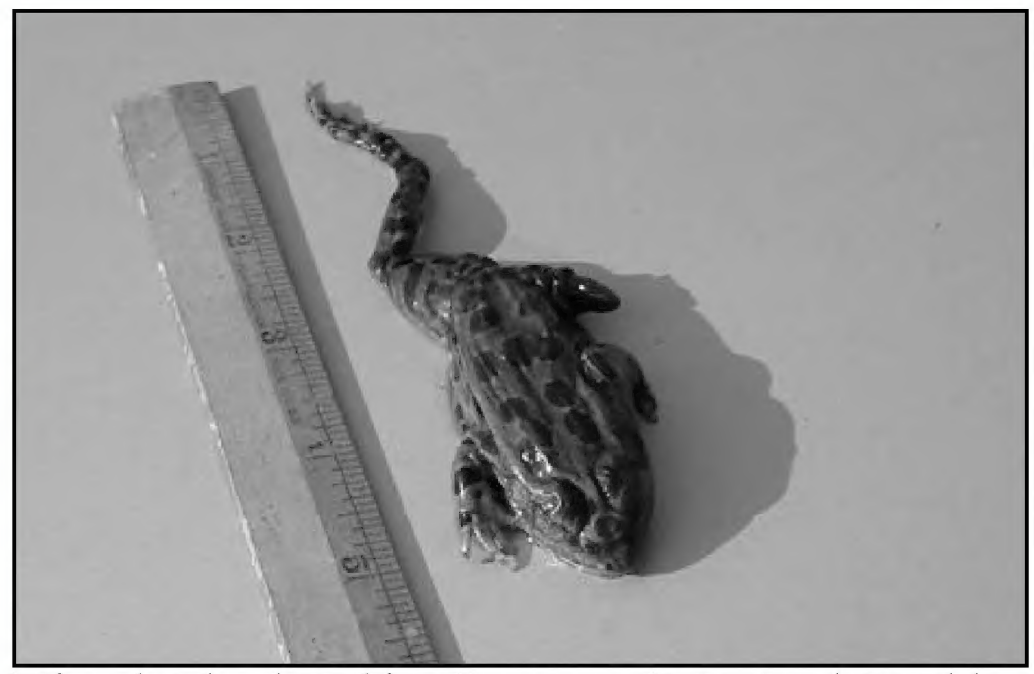
Introduction

In the early 1990s I became aware of concerns about frog deformities in the Erie County, Pennsylvania, area. In 1993 I conducted a limited investigation of some of the main branches of French Creek, as part of a general water quality survey (Wellington, 1997). Some effort was made to look for possible deformed frogs as part of this 1993 survey. No extensive frog study was conducted at that time. Casual observations failed to note any frogs with obvious problems.

In 1996, because of more widespread publicity about national and global reports of problems with frog populations, the issue was again brought to my awareness.

The following summer, I was at a marshy area at a boat launch on the west side of the Howard Eaton Reservoir, near the Pennsylvania–New York State border. This location is on a ridge area south of the Borough of North East, Pennsylvania, and is on the divide between the Lake Erie and French Creek watersheds (the latter is part of the upper Mississippi River watershed). The area is sparsely developed, and is surrounded primarily by fields and small woodlots. Motorboat use by the public is prohibited.

I noted several leopard frogs, *Rana pipiens*, in the shallow water near shore. I captured one, and immediately noted its left rear leg was virtually absent. This frog was taken as a voucher specimen to confirm that there was at least some degree of a deformed frog problem in our area. Two other frogs were captured. They appeared normal, and were subsequently released. No other deformed frogs were noted at that site.



Deformed northern leopard frog, *Rana pipiens*. Postmortem photograph by the author.

At the time of capture the total length of the deformed frog, from its snout to the tip of its toes on the right leg, was approximately 12.5 cm. Later, a postmortem examination revealed the specimen was a male.

Materials and Methods

The frog was placed in a 2.5-gallon commercially available aquarium. A tight-fitting screen top was placed over the aquarium. The frog had remarkable jumping skills in spite of the fact that it had only one fully functional rear leg. Tap water from the City of Erie's water supply was placed in the aquarium to a depth of approximately 4 cm. The tank was cleaned infrequently. Water was added to the tank as necessary to replace water lost by evaporation.

Sand, a small piece of rotted log, a flat piece of shale rock and a half unionid shell were placed at one end of the aquarium to provide a place for the frog to crawl out of the water and sit on a dry area. The aquarium was kept in a den in the writer's basement. Some natural light was provided from a basement window. In addition to the natural light, there were two overhead fluorescent lights, and an incandescent light bulb in the basement room. Lights were usually on periodically throughout the day. Lights were shut off for the night. The temperature was estimated to average around 16°C. Heat in the room during the winter was sometimes provided from a stove in an adjacent room. That stove was not used much of the time. When the stove was not in use, the temperature in the basement area might fall to about 10°C. The frog would be lethargic at such times. It never did hibernate as such, and was active to some degree throughout the winters.

The frog was fed a variety of live foods. Foods that were purchased at a bait store included fly larvae, wax worms and nightcrawlers (only small pieces of nightcrawlers were offered). Live "wild" food was also collected from the area. Such collected foods primarily included terrestrial sowbugs, Japanese beetle larvae, earthworms, carpenter ants and slugs (species unidentified by the writer)*.

At feeding times, live food would be placed on the flat stone, and the frog sometimes would need to make several tries before it captured its prey. At other times food was suspended on a very fine wire in front of the frog. Eventually it would capture the food in its mouth. After some months went by, the frog would occasionally take food from the writer's fingers. The frog would call at times, and produced a relaxing and pleasant sounding chorus.

The frog appeared to be in good health in the days immediately preceding its death. In fact it was more active than it had been for some time. The unfortunate event that led to its demise was likely to be related to its physical deformity. On 29 October 2004, it is believed to have jumped or somehow landed upside down in the water. The water level, due to evaporation, had fallen slightly below normal. Apparently the frog was not able to get itself upright due to the lower water level, and perished as a result.

Discussion

This frog in the wild had been able to capture enough food to sustain itself in spite of the deformity. It was approximately 12.5 cm at the time of its capture from the tip of its snout to the tip of the longest toe on its right leg, and had a total length [head to toe] of 14.6 cm at the time of its death. Its overall growth rate in captivity was about 0.3 cm per year. In back calculating the frog's approximate length at the time of capture, it is estimated the frog's body length was 5.7 cm. Its snout–vent length at the time of death was 6.7 cm. It seems remarkable that the frog had survived in the wild as long as it did given its physical handicap.

Having observed the sometimes numerous unsuccessful attempts to secure "captive" food in the aquarium, the writer believes the frog would have had a difficult time in the wild not only avoiding predators, but in securing an adequate diet. The frog's age at the time of capture is not known. It did live in captivity for about 7.2 years. This age exceeds the longevity record for *R. pipiens* of 6 years reported by Snider and Bowler (1992). It is speculated that the slightly lower water level and the accidental overturning of the frog (possibly due to jumping) caused a premature death. Given the frog's relatively high degree of activity the day before its death, including aggressively feeding and later vocalizing, I believe the frog had the potential to live for a significantly longer time.

Acknowledgments

Special thanks to Brian S. Gray for his encouragement and review of this document [Serpent's Cast Identification Services, 1217 Clifton Drive, Erie, PA 16505]

Literature Cited

Snider, A. T., and J. K. Bowler. 1992. Longevity of reptiles and amphibians in North American collections. Second edition. Society for the Study of Amphibians and Reptiles Herpetological Circular No. 21.

Wellington, R. J. 1997. Erie County Department of Health, Pennsylvania, November 13, 1997 Memo: French Creek Watershed-Eaton Reservoir deformed frogs Erie and Crawford Counties. [Memo regarding observed frogs in Erie County and a partially blind toad in Crawford County, Penn.]

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* The slugs that were occasionally fed to the frog were approximately 1 cm in length, and were light gray in color. At one time the writer attempted to feed the frog an apparently different species of slug that was considerably larger and rather brightly yellow-colored. That slug was approximately 4 cm in length. The frog reacted immediately and severely after ingesting the yellow slug. Heavy mucus formed in the frog's mouth. The slug was spit out by the frog. However, the frog appeared in shock and did not move. The writer wiped the mucus from inside the frog's mouth, and washed the inside of its mouth with city tap water. The writer placed the frog on a dry piece of shale, and after some hours the frog recovered. No attempts were ever made to feed any kind of slugs to the frog after this event. That event occurred about two years prior to the frog's death.

Bull. Chicago Herp. Soc. 40(6):112-115, 2005

Herping in Australia—Field Notes and More
Part 2: Legless Lizards and Snakes

Raymond Hoser
488 Park Road
Park Orchards, Victoria 3134
AUSTRALIA

Sausage Burton's Legless Lizards

There are effectively just two species of legless lizards known from the Sydney region. These are the Burton's (*Lialis burtonis*) and the scalyfoot (*Pygopus lepidopodus*). To all intents and purposes both are found only in the largest of bushland areas and the national parks on the outskirts of the Sydney metropolitan area. That's places like Kurringai Chase, Royal National Park, Woronora State Park and the like. Neither species is rare, but at the same time neither is commonly encountered by herpers unless driving roads at night. Night driving in a park such as Kurringai Chase, one averages about two legless lizards every three nights (good warm snake hunting nights) with each species being of similar abundance. Specimens are found by day both active and under cover, indicating the species have a wide range of different active conditions.

Now while scalyfoots are never found in the inner suburbs in smaller areas of remnant bushland, the Burton's legless lizards sometimes are. A friend of mine found an adult Burton's legless lizard on the bottom end of St. Vincent's Road, Greenwich (the road down the hill to Gore Cove) during the day. But most notable was the sizeable population of Burton's legless lizards in an area known as Grasmere and Brightmore Reserves, Cremorne, just adjacent to Young and Little Young Streets.

Adjacent to the better-known Primrose Park Oval, the population was centered on a small grassy area which had Lantana (*Lantana* sp.) and other weeds on the periphery. We are talking about a few acres at best, which was surrounded by normal houses on their quarter-acre blocks and a population numbering perhaps over 100 lizards. This was all within about 2 km of the North Sydney Central Business District (CBD) and 4 km of the Sydney CBD.

Both gray and red lizards were in the population. For those unaware, there are some Australian reptiles that appear to occur in some areas in two distinct color morphs, namely red and gray. Included here are Sydney's death adders (*Acanthophis antarcticus*).

Through captive-breeding in the early 1980s and keeping detailed records, I was able to discover that this is a genetic trait, with the red allele (gene) being dominant over the gray (for death adders anyway). In other words, you had either red or gray animals, but none that were intermediate (see Hoser, 1985). Obviously there are different ecological advantages for each phenotype, but the amazing thing is how most populations seem to have both morphs present.

Getting back to the Cremorne Burton's legless lizards, they were clearly diurnal in preference, being seen active in the warmer months in the afternoons, when caught moving through long grass. But the thing that made these Burton's legless lizards most distinctive was their huge sizes! About every second specimen had a regenerated tail. This is fairly uncommon for the species in other areas. The rub was that these lizards had in the main become incredibly thick-set and obese, thereby giving them a distinctive sausage-shaped appearance. Put simply, I'd seen nothing quite like this before and for that matter haven't seen anything like it since!

And what were these lizards pigging out on? Skinks, of course. Yes, they were eating the three Sydney staples, namely *Lampropholis guichenoti*, *L. delicata* and *Saproscincus mustelina*.

Now for the purists who may jump up and down and say "Oh, but what about the *Delma*?" I'll mention those legless lizards here. They are found from about 60 to 80 km northwest of Sydney (in the region of the Putty Road and to the west of there) and within the sandstone Sydney basin, but are not generally regarded as Sydney fauna due to their absence elsewhere in the Sydney region. Hence my inference above that they are not a legless lizard from Sydney. Thus for the purpose of this article, I ignore them, save for my passing comment that where they occur, they are common and usually found under rocks and other ground cover during the day in the winter months.

And while talking about the Putty Road and other dry habitat corridors to the north and northwest of the Hawkesbury River, there are other "Hunter Valley" species that occur in these areas and nowhere else around Sydney. These include blue-bellied black snakes (*Panacedechis guttatus*), pale-headed snakes (*Hoplocephalus bitorquatus*) and Dwyer's snakes (*Unechis dwyeri*).

While not generally regarded as Sydney snakes, they do occur within about 80 to 100 km of the Sydney CBD, making Sydney even more exciting from a herper's perspective. Sydney is one of those cities where a drive for a few hours to the north, south or west will yield a totally different suite of herpetofauna.

Water Dragons

If in the Cremore area in summer, it's well worth one's while to check out the waterfalls at the back of Primrose Park, between the football oval and Cammeray Golf Course. Here a creek runs over a series of cascading waterfalls, along a distance of no more than about 100 meters. While generally boulder-strewn, the waterfalls are easily traversable and from a herper's point of view a great place to see lots of eastern water dragons (*Physignathus lesueurii*) in their natural habitat.

The lizards scurry from boulder to boulder, are generally shy and can't be caught by mere stalking. It's generally possible to see ten or more lizards within an hour on a sunny day and thus for the herp observer, the place is well worth a visit. I and my friends tried many times to capture some of these lizards, but invariably without success, until one day I approached them with a noose. The noose was merely a piece of string with a slip-knot that was hung on the end of a long fishing rod.

While the lizards are very wary of an approaching human, they seemed totally oblivious to a noose and the pole it hung from, even to the point of having their heads knocked by them. The lizards would merely move their heads back into position. Then of course, you'd eventually be able to slip the noose over the lizard's head and then you'd be able to yank them towards you to capture them. And so I was able to approach and capture almost every eastern water dragon I saw!

This trait, of lizards being wary of humans, but effectively oblivious to poles and nooses isn't something I just noted on Primrose Park eastern water dragons. I've noticed the same thing when capturing large lace monitors (*Varanus varius*) that have taken to a tree as well as various species of agamid in their natural habitats.

Finally, there was another interesting feature of the Primrose Park eastern water dragon population worthy of note. The creek that ran over the waterfalls was always putrid. Its source was a large pipe that ran from under the golf course. The water itself was a mixture of storm water and runoff as well as sewer overflow and toxic waste. The creek always ran abnormally fast for such a watercourse, obviously as a result of some sort of human intervention and the water was always a bluey-green and generally smelly. In terms of aquatic life, there was basically none. But this clearly didn't affect the lizards, whose population seemed as healthy as ever.

The sliver of bushland surrounding this gully and the adjacent bay, even holds a population of golden crowned snakes (*Cacophis squamulosus*) and colleagues of mine (but not I) have even found specimens during the day sheltering under rocks.

Bent-winged Bats

If you happen to be in the Cremorne area in winter, forget looking for eastern water dragons. To all intents and purposes they just disappear. Obviously the places they hide are inaccessible to herpers like myself.

However there is another (nonherp) creature worth seeing here which for some reason seems to be most abundant in the winter months. This is the bent-winged bat (*Miniopterus* sp.). While bats like this are common in many parts of the world, they are rarely seen. However in Cremorne, they are a cinch to find. As a youth, I and my friends found many of these bats in colonies all over the Sydney region. Or should I say all underneath the city. Typically we found them while crawling up and along the storm-water pipes that criss-crossed beneath the city, usually along the former pathways of watercourses.

Now officially, doing this is a "no-no" because of the inherent risk of flash-flooding, but we never had such problems. Near Primrose Park, we found the storm-water tunnel that ran from the Young Street side, up the hill underneath Brightmore Reserve as the best place for the bats. You'd merely crawl along the tunnel by day as far as you could go, which was about a kilometer underground, whereupon the pipe became too thin to crawl along. Before then you'd usually see anywhere from 2 to 30 adult bats roosting on the middle of the ceiling of the pipes in an upside down position. They'd always be sleeping and you'd simply pick them off the ceilings with your hands.

After a good look at the bats, we'd let them go. They make lousy pets because they eat too many insects, but I did keep some once in a large wooden cage with a wire front and notwithstanding the workload in terms of getting up food for them, they seemed to do okay.

Invisible Snakes and Unnatural Cover

Most of Sydney's inner suburbs simply lack snakes. While most of the human population would be happy with this, for us herpers this isn't so flash. As it happens, golden crowned snakes (*Cacophis squamulosus*) are quite common in the bushier and hillier inner suburbs including places like Mosman, Lane Cove, Cremorne (Primrose Park area, near Churchill Crescent), Northbridge (near Dorset Road), Woolstonecraft (around Boronia Street) and even Belleview Hill (in parts of Cooper Park). They are probably the most prevalent species in the innermost suburbs of Sydney.

However they are very rarely seen. When they are, it is either when brought in by a cat or as a road-kill in some overgrown neighborhood. I can't tell you where these snakes go during the day, because quite frankly I don't know. Sure the texts say they go under well-embedded rocks and the like, but after many years of searching in and around Sydney in any and all likely places, I never found any of this species by day. Outside Sydney (e.g., Ourimbah, 80 km north of Sydney), I have found the species under cover during the day (under logs, bark in tree, etc), but that doesn't really get me over the line in terms of the species around Sydney.

In the National Parks to the north and south of Sydney, it is common to find all manner of small elapids under rocks, logs, sheets of tin and so on. But this does not include the ever invisible golden crowned snakes. However if driving roads on hot nights, golden crowned snakes suddenly become one of the more common species. And that's in all types of habitat (dry and wet)!

The next most common snake in the innermost suburbs is the swamp snake (*Hemiaspis signata*). While rare in the very innermost suburbs, this species is without doubt the king of the middle-ring suburbs from about 5 to 15 km from the city in the hilly areas to the south and north of Sydney. Suburbs where the swamp snake is common include Artarmon, Northbridge, Killara and Epping. I have seen this species active by day (yes, it's diurnal) and specimens are usually found either active or resting under cover. Where they are found, they are often

in large numbers and they seem to congregate in areas adjacent to swamps, sand dunes and rubbish tips.

This gets me to one of those great mysteries of the world. That is where did these snakes hide before white settlement of Australia in 1788? You see, neither I nor anyone else I know has ever found this species sheltering under natural cover. I have however found them sheltering under car doors, tires and sheets of tin!

Put simply, no tin or other human rubbish—no swamp snakes! I recall one day I was tramping through the virgin bushland of Kurringai Chase National Park in search of herps. We were somewhere near Smith's Creek and miles from any human rubbish of any form. Anyway, a whole day of lifting countless rocks and a decent number of fallen logs hadn't revealed a thing. Then I saw a car door in the middle of a clearing. Sure enough, there was a swamp snake under it!

Then there was that occasion I was in the bush with Roger Croft and his girlfriend at St. Ives Chase in search of tree snakes. In the middle of nowhere we saw a discarded car tire. Sally lifted it and found a swamp snake!

Breaking All the So-called Rules!

Up until 2002 I would have sworn black-and-blue that swamp snakes were strictly diurnal. In fact so much so, that they weren't even nocturnal under duress! I use the "nocturnal under duress" tag for species like king brown snakes (*Cannia australis*) which although obviously diurnal, will become nocturnal when the weather becomes to hot for normal diurnal activity. After many hundreds of night drives in search of snakes around Sydney's national parks, I'd never seen a swamp snake at night. That of course excludes those road-kills which remained splattered on the road for several hours after being hit, and often well into the night.

However on Tuesday, 12 March 2002, I had to rewrite the rulebook for this species. I was cruising up the West Head Road looking for snakes when I saw a young adult male swamp snake crossing the road at Salvation Creek (at the site depicted in my book *Australian Reptiles and Frogs*). The time was 8:10 P.M. and the snake had just moved onto the road as I had passed that spot minutes earlier before U-turning. It was effectively dark at the time and the air temperature was 23°C. This was one or two degrees above average for Sydney at that time of day and year, but by no means hot. With the local air temperature being close to normal for Sydney for the previous few hours (a front had passed earlier in the afternoon), it couldn't be argued that the snake was being nocturnal under duress.

Can I offer any decent reason why the snake was on the move at this relatively unusual time? No, not really, save for the catchall hypothesis that all reptiles are more active at times of barometric (air pressure) instability.

For the record, the other creatures seen on the road on this night were an adult southern leaf-tailed gecko (*Phyllurus platurus*) at 9:00 P.M., an adult female golden crowned snake at 9:10 P.M., a dead on road (freshly hit) marsupial mouse (*Antechinus* sp.) at 10.00 P.M., and at 10:30 P.M. an adult male scalyfoot (*Pygopus lepidopodus*), by which stage the air temperature had dropped to 20°C and it had started raining. This latter find ended the night's driving.

For those who don't know, a marsupial mouse is in many ways the marsupial equivalent of a mouse, but is usually slightly larger (50 g vs 30 g in a mouse) and has a distinctively pointed snout.

The scalyfoot find was also out of character for the species. You see, they are generally regarded as a hot weather species in terms of being found crossing roads at night. In the context of Sydney this is usually on nights where the air temperature is in the vicinity of 23–26°C. However, when it seems that a "rule" is broken by snake or lizard in terms of its activity pattern or where it is found, there is usually a reason. The issue is that I don't always know what that reason is.

Outer Suburban Snakes

In the outer Sydney suburbs with larger bushland areas, the blind snakes (*Typhlina* spp.), green tree snake (*Dendrelaphis punctulatus*), yellow-faced whip snake (*Demansia psammophis*), red-bellied black snake (*Pseudechis porphyriacus*), eastern brown snake (*Pseudonaja textilis*) and tiger snake (*Notechis scutatus*) may be found.

However, in the Sydney area at least, none of these species seem able to tolerate the expansion of suburbia and therefore decline as the suburbs encroach. In Sydney's west (and before the Blue Mountains) is the Cumberland Plain. Most of this area is now an urban wasteland known as the "western suburbs". The Cumberland Plain differs from the rest of Sydney in that it lacks sandstone and therefore most of the fauna associated with it.

Thus the original fauna of the Cumberland Plain was depauperate. Most of this area is now built up and basically devoid of much other than feed skinks. The outermost areas, which usually have suburbia encroaching, were long ago cleared into farmland and are usually grassy areas punctuated by drainage gullies and invasive feral vegetation in the form of privet (*Ligustrum vulgare*), lantana (*Lantana camara*) and blackberries (*Rubus ursinus*). They do, however, sustain large populations of red-bellied black and eastern brown snakes, if the level of disturbance isn't too great. Numbers are usually greatest where overgrown areas interface with dumped rubbish, wrecked old houses and the like. Added to the snake species already named above, the national parks to the north of Sydney (such as Kurringai) also have the better known species: brown tree snake (*Boiga irregularis*), death adder (*Acanthophis antarcticus*), diamond python (*Morelia spilota*), small-eyed snake (*Rhinoplocephalus nigrescens*), red-naped snake (*Furina diadema*) and the bandy-bandy (*Vermicella annulata*).

In the southern national parks and those to Sydney's West (such as the Blue Mountains National Park), the list is the same, save for the absence of brown tree snakes and the addition of the broad-headed snake (*Hoplocephalus bungaroides*). The cooler parts of the Blue Mountains also have "cold climate species" in the form of the copperhead (*Austrelaps ramsayi*),

the eastern masters snake (*Drysdalia rhodogaster*) and the white-lipped snake (*Drysdalia coronoides*). These species also occur in cooler regions to Sydney's south and southwest. Contrary to what appears in some books, there is no evidence to suggest that broad-headed snakes ever occurred in the areas of Middle Harbour or Kurringai Chase National Parks.

All the above named species of snake are actually common in the national parks around Sydney, but if asked to find any, the result is far from a foregone conclusion. You see, the Sydney bushland is a maze of hiding spots. There are countless rocks and crevices in which to hide. Many of these are inaccessible. Then there's the "bush" itself. Usually this is a mass of very thick and overgrown vegetation, especially around the gullies. All of this gives the herps even more hiding spots. It's not uncommon for people to spend a whole day in search of reptiles only to find nothing, or next to it.

Even after a bushfire, finding reptiles isn't all that easy. While surviving reptiles are far easier to find immediately after a bushfire and before the vegetation has a chance to regenerate, experience shows that bushfires in hilly, rocky places like Sydney's national parks rarely burn evenly. While some areas are effectively obliterated, the flames often jump creeks, gullies and dips, thereby still giving surviving reptiles a myriad hiding spots. Thus it all means that finding a given species on call may be a difficult task.

Finding Snakes around Sydney

Every Sydney herper can tell stories about capturing snakes and other herps around Sydney. So here's a few of my experiences recalled.

Yellow-faced whip snakes (*Demansia psammophis*) are probably one of two species you can reliably go out and capture on demand. They are common in all the sandstone areas to the north, northwest and south of Sydney. These snakes are readily found in the cooler months hiding under sandstone rocks on the rocky hills. While found in the same situations in summer, the heat usually forces the snakes to other places, which make them invisible to herpers like myself. In winter it's common to find the snakes in pairs (Hoser, 1990).

They bite readily and the bite is a strong stinging pain, accompanied by local swelling. Yes, I've copped countless bites from this species.

In my experience, the yellow-faced whip snake is the most commonly seen species of snake in the Kurringai Chase, Royal, Garrigal, Galston Gorge, Woronora and adjacent national parks. If one were to go out specifically hunting for the species at the correct time of year (the colder months) and one picked the right habitat (rocky hills with northerly aspect), one should average from 2 to 5 yellow-faced whip snakes a day (i.e., per five hours of hunting).

The same type of habitat where one looks for yellow-faced whip snakes—rock slabs on rock outcrops (see Hoser, 1989)—also shelters red-naped snakes and small-eyed snakes. Both of those species are common around Sydney, but not seen by day in anywhere the same numbers as the yellow-faced whip snakes.

The exception to this is in the hilly areas south of Sydney from about Darkes Forest and further, where small-eyed snakes become by far the most common species, and it is in this region that one can reliably go looking for and find them. In May 1977 I found 29 small-eyed snakes under a single pile of tin at Darkes Forest!

David Carey found eight of this species under a single slab of sandstone in the Kangaroo Valley to Sydney's south (see Hoser, 1980). Finding pairs of the species under a single rock is a common occurrence.

Rock-on-rock (as opposed to rock-on-dirt) is without doubt one of the most prized microhabitats around Sydney. It seems almost everything likes this kind of habitat! If you are walking through Sydney bushland looking for herps, always check these sites. Commonly found in rock-on-rock situations, in addition to the species previously mentioned, are green tree snakes (*Dendrelaphis punctulatus*) and on rare occasions young diamond pythons (*Morelia spilota*).

To be continued

Literature Cited

Hoser, R. T. 1980. Further records of aggregation of various species of Australian snakes. Herpetofauna 6(2):16-22.

————. 1985. Genetic composition of death adders (*Acanthophis antarcticus*: Serpentes: Elapidae) in the West Head area. Herptile 10(3):96.

————. 1989. Australian reptiles and frogs. Sydney, New South Wales, Australia: Pierson and Co.

————. 1990. Melbourne's snakes. Litteratura Serpentium 10(2):82-92, 10(3):122-145.

Bull. Chicago Herp. Soc. 40(6):116, 2005

Book Review: *Amphibians and Reptiles of New Mexico* by William G. Degenhardt, Charles W. Painter and Andrew H. Price. 1996 (2nd Printing, 2005). xix + 431 pp. University of New Mexico Press, Albuquerque. ISBN 0-8263-3811-9. Paperback. $39.95*

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James N. Stuart
Conservation Services Division
New Mexico Department of Game and Fish
Santa Fe, NM 87504-5112
E-mail: JStuart@state.nm.us

This excellent book on the New Mexico herpetofauna was first issued as a hardcover version in 1996 and was greeted with very favorable reviews (e.g., Dixon, 1997; Dorcas, 1997; Stuart, 1998). The reprinting of *Amphibians and Reptiles of New Mexico* as a paperback in 2005 would not by itself warrant a new review. However, when the stock of the original printing became depleted and a second printing became necessary, the University of New Mexico (UNM) Press and the authors agreed to incorporate a number of corrections to the text that make the 2005 printing superior to the original. Most of the corrections are from a list of corrigenda prepared by the authors shortly after the first printing was issued (Price et al., 1996). The new paperback version does not include any mention of the corrections, so many readers will be unaware of the improvements.

At the risk of being overly critical, I should point out that one small error identified by Price et al. (1996) was not corrected in the new printing. In the species account for *Kinosternon flavescens* (pages 114 and 116) and in the Literature Cited section (page 380), the article cited as Christiansen and Iverson (1993) should actually be identified as Christiansen and Iverson (in press), which was its status at the time. The article is a chapter in *The Conservation Biology of Freshwater Turtles* (P. C. H. Pritchard and A. Rhodin, editors), a multi-authored book that was supposedly nearing completion when *Amphibians and Reptiles of New Mexico* was published in 1996. Unfortunately, this much-anticipated book on turtles appears to be no closer to publication in 2005 than it was a decade ago. Given that, the Christiansen and Iverson article is probably best considered an unpublished manuscript.

The new printing is of the same production quality as the original: the beautiful color plates are equally sharp, and there has been no cropping of the page size as sometimes occurs in paperback reprints of hardcover books. I'm not sure how well the binding of the paperback will withstand frequent use, especially in the field, but it is certainly lighter and easier to page through than the hardcover version. The very reasonable price is a few dollars more than that of the hardcover when it came out in 1996.

In the nine years since the first printing of *Amphibians and Reptiles of New Mexico*, many new articles on the New Mexico herpetofauna have appeared and the taxonomy has changed for some species and subspecies. This does not reduce the value of the book, which is packed with information no less useful today than it was in the mid-1990s. However, for some purposes, students of New Mexico herpetology may also want to consult more recent information sources, such as the bibliography by Stuart (2004), which is available on the Web and occasionally updated. An appendix in that bibliography, prepared by C. W. Painter and J. N. Stuart, includes an updated list of the New Mexico species and subspecies with the latest scientific and standard English names.

At present, there are no plans by the authors to produce a revised edition of *Amphibians and Reptiles of New Mexico*, so I encourage anyone who does not yet own this book and is interested in the herpetofauna of the Southwestern U.S. to pick up a copy of the new paperback.

Literature Cited

Dixon, J. R. 1997. Book review: *Amphibians and Reptiles of New Mexico*, by W. G. Degenhardt et al. Herpetological Rev. 28(2):104-105.

Dorcas, M. E. 1997. Book review: *Amphibians and Reptiles of New Mexico* by W. G. Degenhardt et al. Copeia 1997(3):643-645.

Price, A. H., C. W. Painter and W. G. Degenhardt. 1996. Corrigenda to *Amphibians and Reptiles of New Mexico*, by W. G. Degenhardt, C. W. Painter and A. H. Price, published by the University of New Mexico Press, July, 1996. Herpetological Rev. 27(4):173.

Stuart, J. N. 1998. Book review: *Amphibians and Reptiles of New Mexico* by W. G. Degenhardt et al. Bull. Chicago Herpetol. Soc. 33(1):11-12.

————. 2004. A Supplemental Bibliography of Herpetology in New Mexico. Web publication (Last revised: 10 May 2004): http://www.msb.unm.edu/herpetology/publications/stuart_supl_biblio.pdf

Bull. Chicago Herp. Soc. 40(6):117-119, 2005

HerPET-POURRI

by Ellin Beltz

Wrong way, Cornie!

Just when I think I've seen them all, here's a new snake story from the *Honolulu Star-Bulletin* [June 1, 2005, from Wes von Papineäu]. A 32-year-old woman was caught by Transportation Security Agents with a 3-foot-long albino corn snake at the airport in Hawai'i. The difference is, she was headed out of Hawai'i for California rather than the other way around. While she said she packed her own luggage she also told the checkers she had no idea how the snake got into her bag.

Just nature red in tooth and claw

"On Friday, May 13, 2005, Volcano Fernandina exploded in the Galapagos Islands. It exploded on its namesake island, where no humans live. Fernandina is the westernmost island in the formation. The volcano shot a column of ash and gas 7 kilometers (4.3 miles) into the air while lava descended its banks. [The] Galapagos National Park Director . . . said: `Evidently a lot of vegetation will be burned and some animals, especially iguanas, will die. But considering that Fernandina is the most pristine island of the archipelago, we don't have to worry much. This is a natural process.' The most active volcano in the Galapagos, Fernandina has had between 20 and 22 eruptions since 1813. In five days the lava flow could reach the Pacific Ocean." [*HerpDigest Lite*, May 29, 2005 from Allen Salzberg]

How tortoises get around

"I have just received a report of an Aldabra giant tortoise that washed ashore in Tanzania. It was apparently extremely thin and just about on its last legs when found but has now recovered. It looks good in photographs and has the most incredible growth of goose barnacles. I am tracking down more information and will make sure this intriguing story is written up properly. From its morphology it's clearly been a wild Aldabra tortoise so presumably was washed out to sea. I think this will probably be the first documented case of a tortoise surviving a sea crossing (even if it did it from island to mainland rather than the other, textbook direction). Does anyone know of any similar stories?" Dr. Justin Gerlach < JstGerlach@aol.com> , Scientific Co-ordinator, Nature Protection Trust of Seychelles, Affiliated Researcher, University Museum of Zoology, Cambridge, May 20, 2005.

Is there a correlation?

• "The number of households with pet reptiles and amphibians, and the number of herps they have is still growing. According to the American Pet Products Manufacturers Association 2005-2006 National Pet Owners Survey, . . . 11 million herps are kept as pets in 4.4 million homes in the U.S. Or on average 2.5 pets per household [keeping herps]. The number of households with herps as pets represent a 7 percent increase from 2002. The amount of herps being kept as pets increases by 22 percent from 2002." [HerpDigest Lite, May 6, 2005, from Allen Salzberg]

• "Arizona Game and Fish law enforcement agents and other officials say they have seen an influx of alligators, cobras, imported diamondbacks, vipers and other illegal creatures in recent years. The number of exotic pets seized by the agency or sparking complaints isn't huge—about 115 cases statewide since 2000, including about a half-dozen alligators a year. But investigators say complaints are rising as the state's population grows, causing concern about threats both to public safety—what's living next door to you?—and to the natural environment. `The crux of the problem is that people are importing all sorts of critters, from all over the globe, with no regard to the regulations, and animals are being released either accidentally or intentionally,' said . . . a Tucson-based field supervisor for Game and Fish." [Tucson, *Arizona Daily Star*, June 5, 2005, from Wes von Papineäu]

Range extensions

• "A rare Mediterranean toad which was once thought to be extinct is causing a bit of a stir at night in the heart of leafy Bedfordshire [U.K.]. The rare and tiny Mallorcan midwife toads have mysteriously found their way into the village of Sharnbrook. After a lucky find on Mallorca in 1980 and a successful breeding program, there were thought to be about 500 left in the world. One theory is they may have arrived in Sharnbrook on imported plants. . . . The piping calls of the male toads sound like a hammer on an anvil. Villagers said they first became aware of the toads about a year ago, but thought their metallic nocturnal noise was coming from the nearby railway line. They later tracked the noise down to the amphibian invaders to local ponds." [British Broadcasting Company, June 1, 2005, from Wes von Papineäu]

• A Thai academician warned that alien species, including North American red-eared sliders, locally called "Tao Kaem-daeng" are increasing rapidly in Bangkok canals. They were originally sold as pets, but were abandoned after they "lost their cuteness" and have begun feasting on native fauna. [*The Nation*, Bangkok, Thailand, June 4, 2005, from Wes von Papineäu]

• "The wilderness between Western Australia's Lake Argyle and the Victoria River in the Northern Territory is soon to become a battleground against the cane toad. And among those breathing a sigh of relief will be the east Kimberley's local frogs. Widespread trapping, fencing and a five-person border patrol will form the basis of an all-out assault by the West Australian Government to keep the cane toad from entering the state." [*Sydney Australian*, June 2, 2005, from Wes von Papineäu]

Hip, hop, hooray!

"Green and black spotted frogs loiter beneath the surface of the glassy water in a concrete pond, occasionally allowing their bumpy heads to break through into the desert air. Others hop into the artificial pool from behind tall tufts of dry grass, diving below their glistening eggs nestled in tangled masses of floating plants. When the pond level drops, a plastic float

opens a pipe and allows a rush of water to replenish it. A rancher transported the threatened Chiricahua leopard frogs to the pond in southeastern Arizona because they were dying in a nearby reservoir that was being reduced to dried, cracked mud by years of drought. `I knew something needed to be done,' said rancher Matt Magoffin, who spent years hauling water to the reservoir before moving the frogs with the approval of the federal government." [Phoenix, *Arizona Republic*, May 31, 2005, from Wes von Papineäu]

Salamanders, salamanders and more salamanders

• " . . . After years of checking genetics and morphology, scientists have determined the critters dubbed the Scott Bar salamander—*Plethodon asupak*—represent a newly discovered species. The findings are published in the June edition of *Herpetologica*, the scientific journal focusing on the crawly creatures. Until now, the population of salamanders in that area were believed to be Siskiyou Mountain salamanders—*Plethodon stormi*—found in a small area of both the Klamath and Applegate river drainages. . . . Scientists continue to look for more information, . . . citing the region's rich history of biological diversity. . . . For more information on the Scott Bar salamander, check out www.inhs.uiuc.edu/cbd/HL/HL.html." [May 31, 2005: Medford, Oregon, *Mail Tribune* and the *Seattle Times*, both from Wes von Papineäu and materials forwarded from The Center for North American Herpetology by Joe Collins]

• "A Canadian scientist said that it may be possible to find new salamander species in amphibian fossils formed during the time dinosaurs roamed the earth. . . . A Montreal-based paleontologist is currently in Hohhot, north China's Inner Mongolia Autonomous Region, to study 50 amphibian fossils at the regional museum. All the fossils date back to the Mesozoic, the third era of geologic time. . . . Chinese scientists named about eight species of salamanders through fossil analysis and new ones may be found." [Beijing, China, *People's Daily*, June 5, 2005, from Wes von Papineäu]

• A new species of plethodontid salamander was found under a rock in South Korea by a biology teacher who sent it to his old advisor at Southern Illinois University who forwarded it to David Wake who discovered that it's a totally new and quite unexpected species. Up until now, all Asian salamanders were aquatic. Finding this one on land was unpredicted and unexpected according to all sorts of amphibian experts. "The nocturnal creature was named *Karsenia koreana* but will be commonly known as the Korean crevice salamander and is significantly different from other lungless salamanders. So far they have been found in 16 locations in three South Korean provinces." [Reuters, May 4, 2005, from Wes von Papineäu]

Lifestyles of the rich and ?

"Hotel heiress Paris Hilton is staunchly opposed to animal hunting with one exception—frog hunting, because it's one of her favorite leisure pursuits. The Simple Life reality TV star spends much of her spare time chasing the green amphibians, but she insists she's more humane than most hunters, because she releases them back into the wild afterwards. She says, `I love frog hunting. I go at my ranches. I have one near Oakland, California, and another in Nevada, and I own an island. So I catch frogs and put them in a bucket and then I let them go.'" [Florida *Sun-Sentinel*, May 16, 2005, from Bill Burnett's mom]

I feel old

Kemp's ridley turtles are starting to nest on Galveston Island, Texas. "The Kemp's ridley that laid 103 eggs in a nest on the beach at Galveston Island State Park was taken to a NOAA laboratory for fitting with a satellite tracking device and was expected to be released into the Gulf on Sunday night. . . . Another 87 eggs were recovered around 10:30 A.M. from another nest on the beach . . . [and would] be taken to the Padre Island National Seashore for incubation, and the young turtles should be released about two months after hatching. The first Kemp's ridley nesting on the upper coast occurred in 2002 on Galveston Island. The last Kemp's ridley turtle nesting recorded on Galveston Island was on May 16 [before these two in late May]." [*Houston Chronicle*, May 29, 2005, from Wes von Papineäu] "Last year, there were 42 known Kemp's ridley nestings on the Texas coast, including two on Galveston Island, two on the Bolivar Peninsula and one at Surfside in Brazoria County. . . . As of 2003, the estimated worldwide female population of Kemp's ridleys was 3,200. . . . That estimate is based mainly on the number of nests located at a beach near Rancho Nuevo, Mexico—until recent years, the only known Kemp's nesting place in the world." [*Houston Chronicle*, May 17, 2005, from Wes von Papineäu] Carole Allen and her tireless volunteers raised funds for and headstarted more than 23,000 Kemp's hatchlings between 1978 and 1992. It was one of my first stories when I began writing my column in 1987. Back then we wondered how long it would take for them to return, if they did. Now, we know it takes Kemp's 16 to 18 years to mature and return to breed!

Great writing

"We all know snakes come out of their holes about this time every year. But, until today, I had managed to conveniently block this bit of knowledge out of my mind. Oh, it's not that I have anything personal against snakes. I'm sure they're very useful for a lot of things like, say, controlling garden pests and guarding ancient tombs. But, you see, my year is divided into two distinct seasons: Spider and Snake. Both equally heinous and terrifying. But right now I'm more concerned with the latter since Memorial Day was the annual kick off of Snake Season, which lasts through the summer and into fall." [Debbie Farmer, Gilroy, California, *The Dispatch*, June 5, 2005, from Wes von Papineäu]

Human or turtle "Survivor" clones?

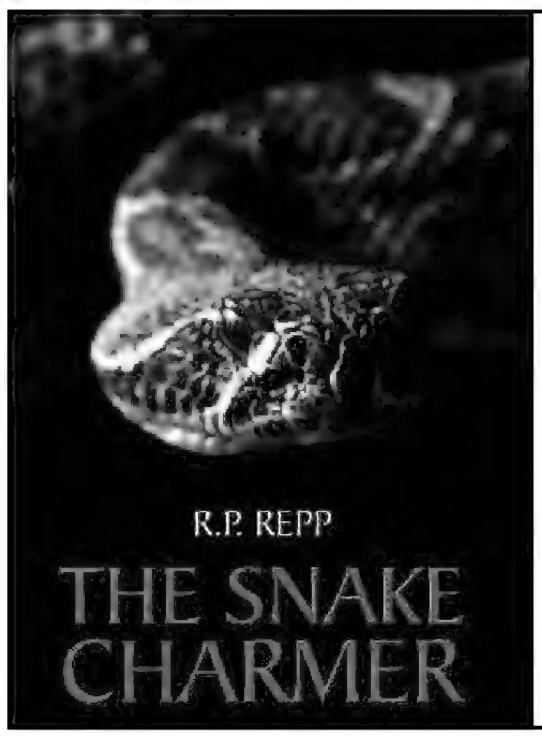
"Environmentalists in Tobago are concerned over the filming of MTV's popular Gauntlet program at Turtle Beach where the endangered leatherback turtle nests at this time of the year. A spokesman for the `Save our Sea Turtles' association said the shooting, taking place over the next six weeks, falls smack in the middle of the 2005 nesting season and would scare away the turtles. . . . The Assembly granted permission for the use of an area where nesting turtles will not be disturbed.

MTV will host more than 15 episodes of the popular ` survivor type' series in locations around Tobago and the Division said the production, which will be viewed by millions of people around the world, will add to Tobago's visibility as the island is promoted as a natural eco paradise." [Port of Spain, Trinidad and Tobago, *The Express*, June 3, 2005, from Wes von Papineäu]

Let's hear it for bird flu!
Low demand for snake meat in the international market following the bird flu scare has resulted in an increase in the number of snakes in Kedah. Demand dropped because consumers feared that snakes could be feeding on sick chicken. [Petaling Jaya, Malaysia, *The Star*, May 13, 2005, from Wes von Papineäu]

Like Losing the Golden Gate?
According to the June 2, 2005, *San Francisco Chronicle*:
"San Francisco garter snakes have returned to San Francisco—but they didn't just slither into town. The newest residents of the zoo are so rare and endangered that they had to be imported from the Netherlands. . . . Their arrival is the result of a collaboration between the zoo and the Fish and Wildlife Service, which means many officials, lots of long titles, and lifestyle improvements for San Francisco garter snakes—both captive and wild. . . . More than 50 representatives of local and national environmental agencies, along with the U.S. Assistant Secretary of the Interior, will welcome the reptiles. . . . By any measure, the San Francisco garter snake is a knockout: Its head is red, its belly turquoise, and coral and black stripes run the length of its body. . . . Listed as federally endangered in 1967 and state endangered in 1971, the San Francisco garter snake disappeared from North American zoos in 2003, when 8-year-old Alcatraz died at the San Francisco Zoo. His wild relatives can be found only in pockets of coastal San Mateo County, the northwest corner of Santa Cruz County and near San Francisco International Airport. And even though they're the patron snake of San Francisco, Lake Merced is the main place in the city where they might once have lived. . . . The Fish and Wildlife Service bought the 10 Dutch snakes—which are 18 inches long and will mark their first birthday on Tuesday—from a private breeder in the Netherlands for $1,780. It's likely that they're descendants of snakes the Fish and Wildlife Service confiscated from suspected smugglers in the early 1980s and gave to the Jersey Zoo in England. Four will stay in San Francisco. The other six will go to the San Diego Zoo later this month and be bred eventually for other American Zoo and Aquarium Association institutions. . . . [It's hoped someday to add some snakes to] a restored wild snake habitat at Mori Point, on the coast in Pacifica. The main attractions were two recently built seasonal ponds that provide homes for Pacific treefrogs and California red-legged frogs. They, in turn, provide dinner for the garter snakes. As real estate goes, the ponds, grasses, uplands and rodent burrows of Mori Point are perfect for the garter snake, and a counterpoint to the Sharp Park Golf Course and Fairway West housing complex next door. Agricultural, commercial and urban development are all threats to the snake—along with lawnmowers, BMX jumps, bullfrogs, teenage boys and phobics."

Thanks to everyone who contributed this month, especially to those still doing it the old fashioned way with whole sheets of newspapers mailed to my snail address: POB 1125, Ferndale, CA 95536. The file folder looks plump enough to withstand a whole column of real clippings next month!



"The Snake Charmer" is a poignant tale of two brothers growing up in a mythical town in Northern Illinois. What sets this book apart from other *coming of age* novels are the characters. Ulysses Lyman narrates the story of his older brother; an infamous herpetologist nicknamed Rattlesnake Roger. After a dozen rattlesnake bites leave Roger near death, Ulysses must find the antivenin that Roger has hidden. Childhood memories guide Ulysses through a gauntlet of adventures in search of the life-saving serum.

"The Snake Charmer" is available at Amazon.com, BarnesAndNoble.com, and PublishAmerica.com.
(Keywords: The Snake Charmer, R P Repp, Ronald Repp)

Bull. Chicago Herp. Soc. 40(6):120-122, 2005

Herpetology 2005

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

HERBIVORY AND VOLUNTARY HYPOTHERMIA IN LIZARDS

C. R. Tracy et al. [2005, Copeia 2005(1):12-19] state that animals that are unable to meet their metabolic needs should adopt compensatory behaviors to mitigate their energetic deficits. Voluntary hypothermia is one such energy-saving strategy. Physiological constraints associated with the digestion of plant tissues, however, may limit the thermoregulatory options of herbivorous ectotherms. In this laboratory study, selected body temperatures of desert iguanas (*Dipsosaurus dorsalis*), subjected to two different rations of a carnivorous and a herbivorous diet, were measured in a laboratory thermal gradient. Lizards fed a carnivorous diet and rationed to 50% of their daily energetic requirement selected significantly lower body temperatures than did lizards in the other diet/ration treatments. Lizards fed a herbivorous diet selected higher body temperatures than did the same lizards fed a carnivorous diet regardless of ration. The study indicates that selected temperatures are influenced by both diet quality and quantity. These results support the hypothesis that herbivorous reptiles require elevated body temperatures to digest plant tissues. The findings do not fully support the behavioral hypothermia hypothesis, which posits that diurnal lizards will seek cool temperatures at night to reduce their energy expenditure. Thermoregulatory strategies of desert iguanas and other herbivorous lizards may be influenced by the need to balance high body temperatures to digest plant material with the high metabolic costs of maintaining high temperatures.

REPTILES OF SOUTHWESTERN GABON

O. S. G. Pauwels et al. [2004, Hamadryad 29(1):115-127] provide a preliminary list of the reptiles occurring in Loango National Park, Ogooué-Maritime Province, southwestern Gabon. The list includes 37 species (3 crocodilians, 8 chelonians, 14 lacertilians and 12 ophidians) distributed in 30 genera and 16 families, and is accompanied by biological observations and black & white photographs. Loango's herpetofauna is remarkable for its mixture of forest, bunchgrass prairie, mangrove and marine species, and for the high number of endangered and protected species, notably all three African crocodiles and three locally nesting sea turtles.

SINONATRIX IN VIETNAM

G. Vogel et al. [2004, Hamadryad 29(1):110-114] report the collection of an adult specimen of the natricine water snake *Sinonatrix aequifasciata* (Barbour, 1908) near Tam Dio, northern Vietnam, confirming the occurrence of this species, previously known only from southeastern China, in Vietnam. The specimen is described and compared with Chinese specimens of *Sinonatrix aequifasciata* and with *Sinonatrix yunnanensis* Rao and Yang, 1998, a species recently described from Yunnan. An artificial key to the genus *Sinonatrix* is provided.

RED EFT DEMOGRAPHICS

R. Leclair, Jr., et al. [2005, J. Herpetology 39(1):51-57] used drift fences from June to October 1994, to sample migrating red efts (*Notophthalmus viridescens*) in terrestrial habitats near a permanent oligotrophic lake in the Mastigouche Reserve, Quebec. Fences were placed up to 200 m from the shore and yielded a total of 1443 efts. Age was estimated by skeletochronology. More than 1200 efts (modal SVL 20 mm, age O+ , 1 and 2 yr) were caught while migrating toward the forest, most (83%) were caught in fences < 15 m from shore between 7 and 30 September. Efts migrating toward the lake (N = 226) were more frequent in June (39.4%) and August (37.6%). Those from three fences nearest shore (< 87 m) were maturing efts (modal SVL 32 mm; age 3–5 yr). Age and SVL were highly correlated in the eft population. Fence distance from shore and the interaction of this factor with fence side accounted for a significant portion of eft body size variation. Results suggest that maturing efts may need more than one season to migrate from terrestrial home range to spawning lake. Reduced migration during midsummer may be the result of adverse conditions on the forest floor. The median number of breeding seasons in the study population (2.5) was estimated by comparing age structure of the maturing eft population with that of adults in the nearby lake.

SPECIALIZED TREEFROG REPRODUCTIVE MODE

C. F. B. Haddad et al. [2005, Amphibia–Reptilia 26(1):87-92] report that males of the South American treefrog *Aplastodiscus perviridis* construct concealed subterranean nests. Using a complex courtship behavior that involves tactile stimuli and vocalizations, males guide the females to the subterranean nests where eggs are laid. Embryos and facultatively oophagous tadpoles (at least in stage 25) stay in subterranean nests until flooding transports them to ponds or streams. This is a rare reproductive mode previously known for few species in the *Hyla albosignata* and *H. albofrenata* complexes. Based on similarities of reproductive mode, the authors suggest a monophyletic origin for *Aplastodiscus* and these complexes of *Hyla*.

SHRIKE PREDATION ON HATCHLING TORTOISES

F. Barje et al. [2005, Amphibia–Reptilia 26(1):113-115] while studying the ecology of the Moorish tortoise, *Testudo graeca graeca*, in Morocco in April 2003, found several hatchling tortoises impaled on spiny shrubs in a typical shrike manner. Therefore, the authors searched the study site and surrounding area (total prospected area was 50 ha) intensively, and discovered a total of 25 impaled tortoises. With an average shrike territory size of 75 ha, such predation may be due to only one breeding pair. However, another impaled tortoise was found in a second study area. The authors speculate that overgrazing may deprive immature tortoises of the plant cover that constitutes their main shelter.

GUT-LOADING FEEDER CRICKETS

M. D. Finke et al. [2005, J. Herpetological Medicine and Surgery 15(1):7-12] note that crickets, *Acheta domesticus*, are commonly fed special diets to alter their nutrient content (especially with regard to calcium) to make them a better diet for insectivorous reptiles and amphibians. Calcium-fortified dry diets are used by zoos to increase crickets' calcium content and a variety of products are available in pet stores for the hobbyist. The authors compared the moisture, calcium and phosphorus content of small cricket nymphs and adult crickets offered an experimental dry calcium-fortified gut-loading diet with those fed four commercial dry diets. An unfortified dry diet served as a negative control. Crickets fed the experimental calcium-fortified dry diet and one of the commercial products (T-Rex® Calcium Plus™Food for Crickets) contained sufficient calcium to meet the estimated requirements of insectivorous reptiles and significantly more calcium than those fed the other treatments. Crickets fed the other three commercial products contained no more calcium than those fed an unfortified diet and would likely be considered calcium deficient when used as food for insectivorous reptiles. Cricket nymphs contained significantly more moisture (as is basis) and phosphorus (dry weight basis) than adult crickets but neither were affected by diet. Despite marketing claims on three of the four products suggesting their use as a calcium source for gut-loading crickets, only one of the commercial foods tested was effective in increasing the calcium content of crickets.

DISCOVERY OF FIRST ASIAN PLETHODONTID

M. S. Min et al. [2005, Nature 435:87-90] report the discovery of the first Asian plethodontid salamander, from montane woodlands in southwestern Korea. They place the species in a new genus (*Karsenia*) on the basis of morphological and molecular data. The genus name honors the discoverer, Stephen J. Karsen. The full name for the new species is *Karsenia koreana*. The suggested vernacular name is Korean crevice salamander. The distribution of this new salamander adds to the enigma of Old World plethodontids, which are otherwise restricted to the western Mediterranean region, suggesting a more extensive past distribution of the family. Hence, this discovery encourages further efforts to find more of these secretive animals in Asia.

ENSATINA MIMICRY

S. R. Kuchta [2005, Copeia 2005(2):265-271] conducted a field experiment to test the hypothesis that the plethodontid salamander *Ensatina eschscholtzii xanthoptica* benefits from aposematic coloration. Clay models painted to resemble *E. e. xanthoptica* were attacked significantly less often than models lacking the supposed aposematic colors. In addition, the head region of models was attacked significantly more frequently than random, suggesting the models were perceived as prey items. These results are consistent with the hypothesis that *E. e. xanthoptica* is a mimic of highly toxic Pacific newts in the genus *Taricha*. The significance of the *E. e. xanthoptica* phenotype for the ring species biogeographic scenario and future research directions are briefly discussed.

MALAYEMYS SYSTEMATICS

T. R. Brophy [2004, Hamadryad 29(1):63-79] studied geographic variation in the Southeast Asian turtles of the genus *Malayemys* (Testudines: Bataguridae). Discriminant function analysis of head-stripe and shell characters reveals a clear pattern of geographic variation that is consistent with the topography of Southeast Asia and the poor dispersal abilities of these turtles. Two phenotypically and morphologically distinct groups of *Malayemys* occur allopatrically in lowland areas of mainland Southeast Asia, and the data imply that they should be recognized as distinct species. Turtles from the Mekong River Basin retain the name *Malayemys subtrijuga* (Schlegel and Müller, 1844), whereas those from the Chao Phraya and Mae Klong river basins, coastal areas of southeastern Thailand, and the Malay Peninsula are assigned the name *Malayemys macrocephala* (Gray, 1859). *M. macrocephala* has four or fewer nasal stripes (99%) and an infraorbital stripe that is relatively wide at the loreal seam and does not extend or extends only slightly superior to the loreal seam (96%). Conversely, *M. subtrijuga* has six or more nasal stripes (89%) and an infraorbital stripe that is relatively narrow at the loreal seam, extends completely superior to the loreal seam (96%), and usually joins the supraorbital stripe (64%). Both species are potentially threatened by overcollection and habitat destruction, and should be protected as separate taxa of concern. In addition, analysis of shell and head-stripe characters suggests that *M. subtrijuga* on Java are derived by human intervention primarily from the Mekong River Basin.

HERPETOFAUNA FROM WEST MALAYSIA

L. L. Grismer et al. [2004, Hamadryad 29(1):15-32] carried out a herpetofaunal survey in a logging concession in Temengor Forest Reserve, Hulu Perak, Perak Darul Ridzwan, West Malaysia. The survey documents 32 species of amphibians and 25 species of reptiles representing five and seven families, respectively. Five species of frogs, one caecilian, 15 species of lizards and four species of snakes are newly reported from the area, including an undescribed species of flying frog (*Rhacophorus*). Color photographs accompany the report.

SEX DIFFERENCES IN CAUDAL LURING

A. M. Rabatsky and J. M. Waterman [2005, Herpetologica 61(2):87-91] note that caudal luring is a behavior used by many ambush-foraging snakes that increases their encounter rate with prey. The authors used dusky pigmy rattlesnakes, *Sistrurus miliarius barbouri*, in a series of trials involving prey and measured the frequency and duration of caudal luring. This behavior varied ontogenetically, with adults never performing caudal luring. Juveniles that lured for longer durations were more successful in attracting prey. Males and females caudal lured in equal frequency but females took longer time periods to achieve a similar level of foraging success. Tails are sexually dimorphic in this species, and the authors suggest that the longer tail of the male may be a more effective luring device. This is the first quantification of a sex difference in caudal luring, and the results suggest important differences between males and females in foraging ecology.

DESERT TORTOISE DENSITY AND HABITAT

R. C. Averill-Murray and A. Averill-Murray [2005, J. Herpetology 39(1):65-72] note that desert tortoise (*Gopherus agassizii*) surveys and management in the Sonoran Desert typically exclude intermountain valleys, where tortoises are generally thought to be absent. Furthermore, few regional-level surveys have been conducted because of difficulties in sampling in the complex landscape of Sonoran Desert upland habitat. The authors used distance-sampling to document macrohabitat use and regional density of desert tortoises across the 76,800-ha Ironwood Forest National Monument in Arizona. Forty-two tortoises were obsevrd on transects, and distance sampling produced an estimate of 17,997 tortoises ≥ 150 mm carapace length (coefficient of variation = 41.5%) on the monument. Stratification by habitat type (steep topography with boulders, incised washes, or neither of these components) improved precision slightly (37.2%). Detection probability contributed least to density variance, compared to encounter rate and tortoise detectability on the transect line, indicating that assumptions of the technique were met during sampling. Tortoises or their sign were found on 92% of transects in boulder habitat, on 71% that included incised washes, and on 25% in habitat with neither of these features (up to 1.7 km away from the nearest slope). Results indicate that desert tortoises in the Sonoran Desert occur at low density, but are not absent, from intermountain valleys, and the maintenance of these valleys for tortoise movement between local populations may be important for long-term population viability. With this in mind, concentrating survey effort in areas with steep topography and boulders will increase tortoise encounter rate, result in better precision of regional density and trend estimates, and may also reduce survey effort.

ODOR CONCENTRATION AND POSTSTRIKE TRAILING

T. L. Smith et al. [2005, Herpetologica 61(2):111-115] note that rattlesnake predatory behavior is defined by a strike and then release of rodent prey. Poststrike, the released envenomated prey dashes off and dies. Therefore, the snake must relocate the prey relying largely upon chemosensory cues emitted by the struck prey. Assessing these poststrike chemosensory cues is important to the snake as these cues may contain significant information about the effectiveness of the preceding strike and hence the likelihood that trailing the odor left by the envenomated prey will allow successful recovery of the prey. One possible cue in this scent trail is concentration of the distinctive odor generated in the prey during envenomation. To test this, snakes were presented with different poststrike choices of low and high prey-odor concentrations. It was found that although rattlesnakes could trail each concentration level, they preferred the high odor concentrations. These results imply that rattlesnakes respond to concentration levels, not just to a threshold level of prey odor. This adjustment to different odor concentrations is not accomplished by varying rate of tongue flicks. Based on this study and previous work, the authors propose a behavioral mechanism by which rattlesnakes assess the chemosensory quality of a poststrike prey odor trail.

TADPOLE THERMAL TOLERANCE

C.-S. Wu and Y.-C. Kamb [2005, Herpetologica 61(1):35-46] measured the critical thermal maxima (CTMax) of tadpoles of *Buergeria japonica* inhabiting streams and geothermal hot springs. The CTMax of all *B. japonica* tadpoles was over 41°C, indicating that the tadpoles are heat-tolerant. At Rushan, the authors monitored the temporal and spatial distribution of tadpoles over a 24-h period in a 220 × 70 cm plot that is fed by a geothermal hot spring. The thermal profiles varied seasonally, but the highest water temperature selected by tadpoles remained similar (ca. 37°C). In the winter, the thermal range was lower (29.5–40.6°C), and tadpoles could be found in the majority of the plot. In contrast, during spring and summer the temperature ranges were higher (33.1–43.8°C and 33.0–42.4°C, respectively), and tadpoles could be found only in the cooler sections of the plot, especially around 1000 h with direct solar radiation. These results suggest that extreme heat tolerance and behavioral thermoregulation (i.e., heat avoidance behavior) are the main means by which *B. japonica* tadpoles cope with the high temperatures in geothermal hot springs.

TURTLES OF INLE LAKE, MYANMAR

S. G. Platt et al. [2004, Hamadryad 29(1):5-14] investigated the occurrence and conservation status of turtles at Inle Lake, Myanmar, during December 2003 and January 2004. The survey verified the occurrence of extant populations of *Cyclemys dentata* and *Amyda cartilaginea* at Inle Lake, and *Indotestudo elongata* in the surrounding uplands. Furthermore, interview data strongly suggest that *Nilssonia formosa* formerly occurred in the lake, but has recently been extirpated. Traditional exploitation of turtles at Inle Lake was minimal, but the situation changed abruptly during the mid-1990s in response to demand from burgeoning wildlife markets in southern China. Commercial overharvesting now threatens the viability of turtle populations remaining at Inle Lake. The harvest of *I. elongata* remains largely for subsistence, but in combination with frequent anthropogenic wildfires may constitute a long-term threat to tortoise populations. Additionally, the authors report on the ethnobiological knowledge and cultural practices of local indigenous groups regarding chelonians.

THERMOREGULATION IN BROWN TREESNAKES

N. L. Anderson et al. [2005, J. Herpetology 39(1):82-90] recorded preferred body temperatures (T_b) of seven brown treesnakes (*Boiga irregularis*) in the laboratory and compared these to operative temperatures obtained with copper models and T_bs obtained by radiotelemetry from 11 free-ranging snakes on Guam. Operative temperatures on Guam did not vary across refuge types, unless the site received direct solar radiation. In a thermal gradient and on Guam, brown treesnakes thermoregulated around two distinct temperature ranges (21.3–24.9°C; 28.1–31.3°C). In the gradient, brown treesnakes exhibited elevated T_b into the higher range only in the evening. On Guam, snakes achieved T_bs in the high range only when direct solar radiation was available during the afternoon, a period when snakes were inactive. Higher mean T_bs on sunny days corresponded with observations of basking behavior.

Unofficial Minutes of the CHS Board Meeting, May 20, 2005

Linda Malawy called the meeting to order at 7:35 P.M. Board members Betsy Davis and Mike Dloogatch were absent.

Officers' Reports

Recording Secretary: Melanie Aspan read the minutes of the April 15 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman presented the April financial statements and reported a profit for the 2005 ReptileFest pending any further expenses. Jim also made a recommendation that each of the restricted funds be dispersed according to their intended purpose.

Sergeant-at-arms: Ron Humbert announced the member count at the April general meeting as 65.

Committee Reports

Shows: Jenny Vollman announced Park District shows on April 21 and August 20 at Jackson Park. Jenny also announced the next Notebaert weekends as June 4–5 and July 9–10. The Field Museum Members' Nights are scheduled for June 2–3. Steve Sullivan invited any interested parties to the 2005 ReptileFest wrap-up meeting at his home on May 28 at 10:00 A.M.

Adoptions: Linda Malawy announced the receipt of $100 directly related to the rescue of an alligator. Including this sum, the money collected from adoptions this month totals $290. Linda noted that only a small sum has been collected which was notated by the donor as being available to be transferred to funds other than the Adoptions Fund. She feels that the added clause needs to be in a more prominent position on the form and she will be amending it accordingly.

General Meetings: The Herp of the Month for May will be frogs and/or toads. June will be rescued herps, August will be salamanders, and September will be tri-colored snakes. The Illinois short presentation for May will be presented by Ron Humbert and will feature the alligator and common snapping turtles.

Old Business

April General Meeting Special Session: During a special session at the April general meeting the following board action was approved by a majority of the members voting thereon: that Steve Spitzer would be expelled from membership in the CHS.

Steve Spitzer Letter: The letter received from Steve concerns his transporting Jennifer Spitzer to and from CHS events. There was a consensus that it would be appropriate to approve Steve's doing this. Deb Krohn will draft a letter of response and send it to board members for approval.

Herp Supply Business Offer: This merchandise is scheduled to arrive Monday, May 23, and we are now waiting to receive an invoice for the shipping cost.

State Herp Update: Ron Humbert alerted the Board that the Illinois State Senate has ratified the bill to accept the two animals as State symbols. The bill is now awaiting only a signature from Governor Blagojevich.

New Business:

Presidential Position: Linda Malawy read to the Board Lori King's letter of resignation. The Board regretfully accepted Lori's resignation and wished her all the best in future endeavors. Ron Humbert made a motion that Linda Malawy take over the position of President in the absence of Lori King for the remainder of the 2005 year. Jenny Vollman seconded the motion. All present voted in favor and Mike Dloogatch voted in favor by proxy.

Vice Presidential Position: In the event of the previous motion being approved, Linda Malawy nominated Zorina Banas for the position of Vice President. Ron moved that Zorina Banas be a candidate considered for the vacated office of Vice President of the Chicago Herpetological Society. Jenny Vollman seconded the motion. All present voted in favor of this motion.

Membership Secretary Position: Cindy Rampacek, Sean Bober and Jennifer Spitzer were all presented as possible candidates. After extensive discussion Jim Hoffman moved that the Board nominate Jennifer Spitzer to be Membership Secretary and fill the vacancy. Ron Humbert seconded the motion. All present voted in favor of this motion.

Roundtable

Steve Sullivan informed everyone that a new President/CEO has been hired at the Notebaert Nature Museum. Steve recommended that we extend a letter of welcome to Laurene von Klan and possibly schedule a meeting to take place once she has taken up the position.

The meeting was adjourned at 10:04 P.M.

Respectfully submitted by Melanie Aspan, Recording Secretary.

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < http://www.themousefactory.com> .

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: books. *The Outdoor Traveler's Guide—Australia* by Gerry Ellis and Sharon Cohen, 1988, 400 pp., 242 outstanding color photos (including some of herps), an excellent, well-written and illustrated guide to 92 Australian natural areas, inscription on frontpiece, softbound, $25; *Records of the American-Australian Scientific Expedition to Arnhem Land , Vol. 4—Zoology* edited by R. L. Specht, 1964, published by Melbourne University Press, 533 pp., many color and b&w photos, drawings, accounts of mollusks, fishes, amphibians and reptiles (35 pp.), birds, and mammals, DJ somewhat torn, hardbound, $85; *Australian Reptiles in Colour* by Harold Cogger, 1967, 112 pp., 50 excellent color photos of reptiles in their native habitat, DJ torn, hardbound, $15; *Australia's North* by Stanley and Kay Breeden, 1975, 208 large pp., many excellent color and b&w photos (some full page) of herps such as the frill-necked lizard, olive python, monitors, geckos, crocodiles and others, a detailed natural history of the Kakadu and Kimberley areas, DJ, hardbound, $35. All books in excellent condition except as noted. $2.50 postage and handling for orders under $25, free for orders $25 and over. E-mail for complete book list. William R. Turner, 7395 S. Downing Circle W., Littleton, CO 80122, (303) 795-5128, e-mail: toursbyturner@aol.com.

For sale: Two 1-foot Neodesha cage sets, each set includes matching hide box and water bowl, $25 per set. Jim, (847) 534-4980.

For sale: c.b. blue-tongued skinks, *Tiliqua scincoides*, born August 2004, $70 each. Linda Malawy, (630) 717-9955.

For sale: well started captive-hatched Sri Lankan and mainland Indian star tortoises, photos available on request. Most Sri Lankans are 2004 hatchlings. $500 each for Sri Lankans, $300 each for mainlands plus shipping. Limited numbers of pancake tortoise hatchlings now available, $350 each. E-mail KKranz1@wi.rr.com or call (262) 654-6303. [WI]

For sale: c.b. '03 yellow anacondas, aggressive feeders, perfect health, about 2' long, $100 each; also c.b. '04 reticulated pythons; beautiful hatchlings already feeding on adult mice. These guys are tiger siblings and are available for $100/each as well. Personal checks, money orders and Paypal accepted. Out of state shipping available. If you have questions or would like to purchase an animal call Mark Petros, (847) 836-9426 or E-mail ballpython777@yahoo.com.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: info@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: < http://www.bluechameleon.org> , E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: The beautiful Amazon! Costa Rica from Atlantic to Pacific! Esquinas Rainforest Lodge, the Osa Peninsula, Santa Rosa National Park, and a host of other great places to find herps and relax. Remember, you get what you pay for, so go with the best! GreenTracks, Inc. offers the finest from wildlife tours to adventure travel, led by internationally acclaimed herpers and naturalists. Visit our website < http://www.greentracks.com> or call (800) 892-1035, e-mail: info@greentracks.com

Virtual Museum of Natural History at www.curator.org: Free quality information on animals—emphasis on herps—plus expedition reports, book reviews and links to solid information. Always open, always free.

Wanted: Volunteer to help with midwestfrogs.com web site by transcribing videotaped interviews with frog biologists (from VHS). Dave McGowan, dmcgowan3@earthlink.net.

Wanted: Female ball pythons, adults preferred but smaller animals also considered. I am a professional breeder specializing in ball pythons and I can assure you that your animal will be provided with excellent care and optimal living conditions. Mark Petros, (847) 836-9426; ballpython777@yahoo.com.

Wanted: I'm looking for my soulmate. I want to settle down to a family before it is too late. But I have this problem. . . . When we get into hobbies and interests: old popular records, jazz and show tunes, and antique electronics are fine, but when I mention turtles, "What, are you crazy?" So maybe this is a better place to look. Please don't try to separate me from my turtles—at least not most of them. If interested, please drop a line to Ellis Jones, 1000 Dell, Northbrook IL 60062, telling a bit about yourself and giving a phone number.

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, June 29, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. **Dr. Philip A. Cochran**, Professor of Biology at Saint Mary's University in Winona, Minnesota, will speak on "Ecology of Wood Turtles in Northeast Wisconsin and Their Potential Role as Seed Dispersers."

Our popular **Show & Tell** meeting will take place on July 27 this year. All members are encouraged to bring a favorite animal and to be prepared to come up on stage and tell us something about the animals they have brought.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the July 15 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot to the left and behind the building.

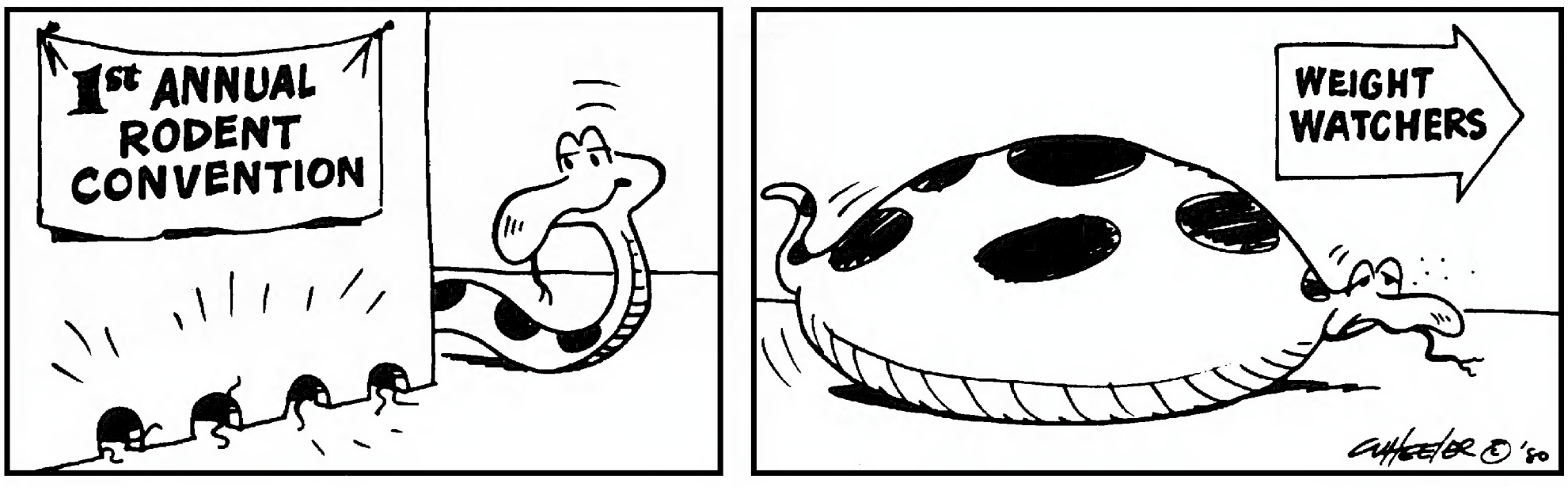
The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the "Herp of the Month" to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners as follows: 1st place—6 raffle tickets at next meeting; 2nd place—4 raffle tickets at next meeting; 3rd place—2 raffle tickets at next meeting. For June any rescued or adopted reptile or amphibian will be Herp of the Month.

THE ADVENTURES OF SPOT



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